ABSTRACT

A pharmaceutical composition for controlled drug delivery comprising a ß-lactam antibiotic or its pharmaceutically acceptable hydrates, salts or esters, and one or more carbomers. The above ß-lactam antibiotics formulation avoids the limitations of known ß-lactam controlled release form which are found to be either complex and/or cost-extensive to obtain requiring multiphase and/or selective coatings or fail to achieve the desired controlled release for once daily dosage form. Importantly, in the ß-lactam antibiotic form of the above the rate-controlling polymer wherein the C_{max} of the formulation is substantially the same as that of a single dose of the immediate release formulation. Also advantageously the formulation achieves a rate controlling polymer wherein the T > MIC for the formulation is more than 17 hours when the MIC is 0.25 mcg/ml and more than 10 hours when the MIC is 2 mcg/ml.The above ß-lactam antibiotic form is thus directed to serve as the much desired simple and cost-effective controlled release form suitable for once daily administration.